

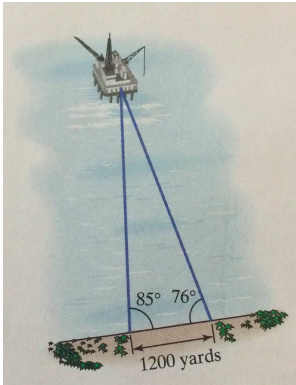
#### Unit 4 Lesson 5C - Word Problem Classwork/Homework

Name: \_\_\_\_\_

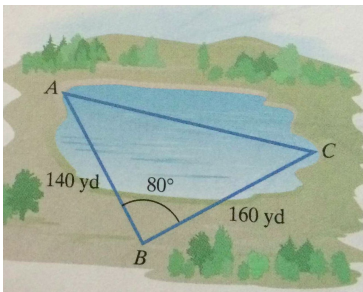
You should finish at least the first six problems for classwork and have time to check them for correctness of answers and process. The remaining problems should be finished for homework (if necessary).

**Directions:** For each problem, sketch and label a diagram if one does not already exist. Label the type of triangle (SSS, SAS, SSA, ASA, SAA) and the laws you will use to solve this problem. If more than one triangle exists in the problem, label each step.

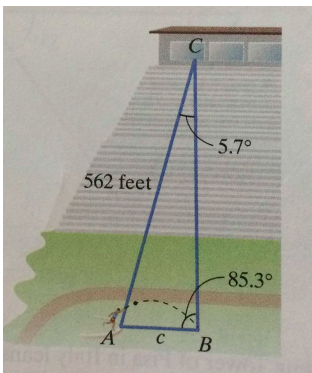
1. The figure shows a 1200-yard long beach and an oil platform in the ocean. The angle made with the platform from one end of the beach is 85 degrees and from the other end is 76 degrees. Find the distance of the oil platform, to the nearest tenth of a yard, from each end of the beach.



2. Find the distance across the lake from A to C, to the nearest yard, using the figure below.

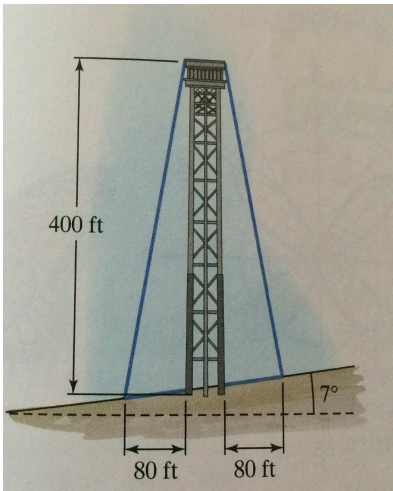


3. The figure shows a shot put ring. the shot is tossed from A and lands at B. Using modern electronic equipment, the distance of the toss can be measured without the use of measuring tapes. When the shot lands at B, an electronic transmitter placed at B sends a signal to a device in the official's booth above the track. The device determines the angles at B and C. At a track meet, the distance from the official's booth to the shot put ring is 562 feet. If B is 85.3 degrees and C is 5.7 degrees, determine the length of the toss to the nearest tenth of a foot.

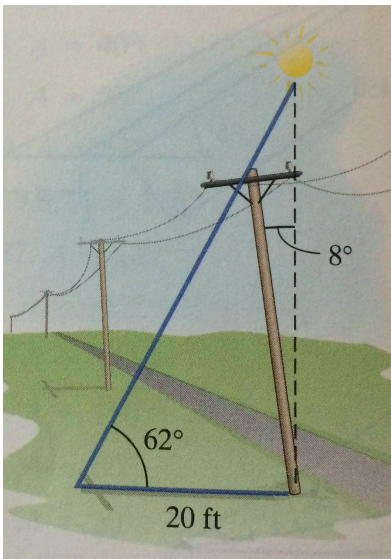


4. Two ships leave a harbor at the same time. One ship travels on a bearing of S12W at 14 miles per hour. The other ship travels on a bearing of N75E at 10 miles an hour. How far apart will the ships be after three hours? Round to the nearest tenth of a mile.

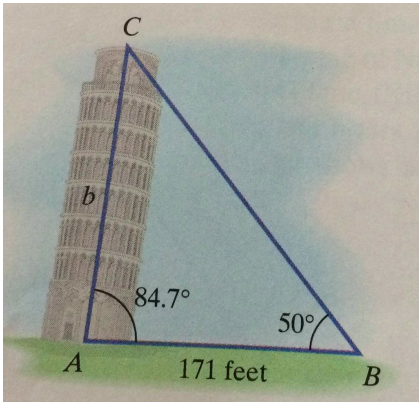
5. The figure shows a 400 foot tower on the side of a hill that forms a 7 degree angle with the horizontal. Find the length of each of the two wires that are anchored 80 feet uphill and 80 feet downhill from the tower's base and extend up to the top of the tower. Round to the nearest tenth of a foot.



6. When the angle of elevation of the sun is 62 degrees, a telephone pole that is tilted at an angle of 8 degrees directly away from the sun casts a shadow 20 feet long. Determine the length of the pole to the nearest tenth of a foot.

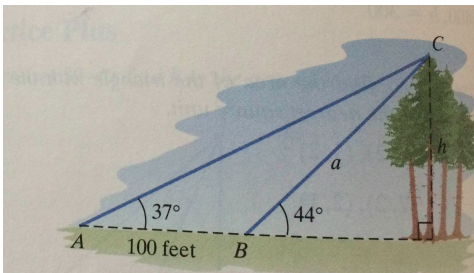


7. The Leaning Tower of Pisa in Italy leans at an angle of about  $84.7^\circ$ . The figure shows that 171 feet from the base of the tower, the angle of elevation to the top is  $50^\circ$ . Find the distance, to the nearest tenth of a foot, from the base to the top of the tower.



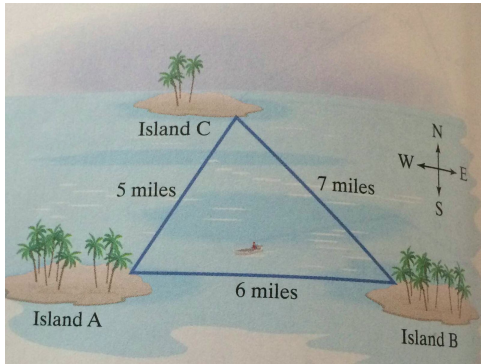
8. Two fire-lookout stations are 10 miles apart, with station B directly east of station A. Both stations spot a fire. The bearing of the fire from station A is N25E and the bearing of the fire from station B is N56W. How far, to the nearest tenth of a mile, is the fire from each lookout station?

9. Redwood trees in California's Redwood National Park are hundreds of feet tall. The height of one of those trees is represented by  $h$  in the figure shown below. Find  $h$ .



10. A Major League baseball diamond has four bases forming a square whose sides measure 90 feet each. The pitcher's mound is 60.5 feet from home plate on a line joining home plate and second base. Find the distance from the pitcher's mound to first base. Round to the nearest tenth of a foot.

11. If you are on island A, on what bearing should you navigate to go to island C? If you are on Island B, on what bearing should you navigate to go to Island C?



12. The figure shows the design for the top of the wing of a jet fighter. The fuselage is 5 feet wide. Find the wing span  $CC'$  to the nearest tenth of a foot.

